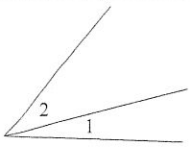
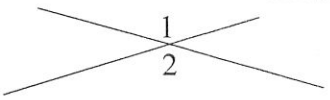
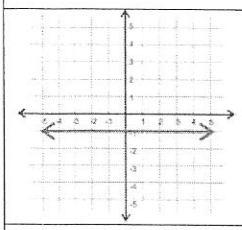
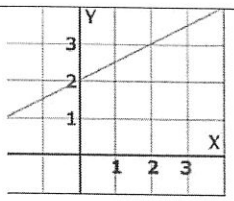
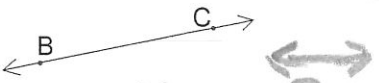
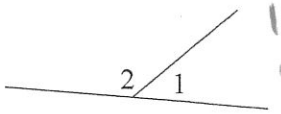
Name _____ keys Date _____

Integrated Geometry Midterm *REVIEW*

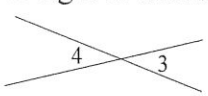
PART 1: VOCABULARY. (Matching) Be able to define/describe the following words

Complementary Angles	Angle Bisector	Ray
Segment	Angle	Collinear
Vertical Angles	Obtuse angle	Line
Adjacent Angles	Acute angle	Coplanar
Midpoint	Straight angle	Initial Point
	Right angle	Intersection

PART 2: PICTURE MATCH. (Matching) Identify the term the picture represents.

 adjacent ∠s	 Ray $\overrightarrow{CB}$	 vertical ∠s
 Zero slope Horizontal line	 positive slope	 line $\overleftrightarrow{BC}$
		 linear pair Supplementary

Part 3: TRUE OR FALSE. Use the picture at right to decide whether the statement is *true* or *false*.

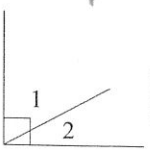


∠3 and ∠4 are vertical angles. T

A 107° angle is complementary to 83° angle. F

A segment has three endpoints. F

An obtuse angle measures between 90° and 180° T

∠1 and ∠2 are supplementary angles.  F

Part 4: MULTIPLE CHOICE.

Estimate $\sqrt{2669}$ $\approx$ 51.66

Simplify: $1.3 - (15 + 5)^2$

$1.3 - 20^2 = 1.3 - 400 = 398.7$

A company rents trucks for $27 per day. Last weekend, 122 trucks were rented from the company for ***2 days each***. Which is the closest estimate of the total amount of money the company earned from the 122 rentals?

$60 \cdot 120 = 7200$

Simplify: $-|-5| + (-x)^2$ $= -5 + x^2$

Evaluate: $40 + 28 \div 4 - (-33)$

$40 + 7 + 33 = 47 + 33 = 80$

What is the greatest common factor (GCF) of these monomials: $24x^4y^2$ $84xy^4$ $30x^2y^2$

1, 2, 3, 4, 6, 8, 12, 24

x^4 x^1 x^2

$6xy^2$

Simplify the expression: $(-5x^3)(3x^4) = -15x^7$

The length of a rectangle is 7.8 ft. The area of the rectangle is 48 ft^2. Which is the closest approximation to the width of the rectangle? The formula for the area of a rectangle is : $A = lw$

$A = l \cdot w$

$48 = 7.8 \cdot w$ $\quad 48 = 7.8w$

$6.15 = w$

A computer screen shows two points at the coordinates: P_1 (1,7) and P_2 (6,4). What are the **coordinates of the midpoint** between the two points?

$x_1 y_1$ $x_2 y_2$

$M\left(\frac{x_2+x_1}{2}, \frac{y_2+y_1}{2}\right) \Rightarrow \left(\frac{6+1}{2}, \frac{4+7}{2}\right) \Rightarrow \left(\frac{7}{2}, \frac{11}{2}\right) \Rightarrow (3.5, 5.5)$

What is the **distance** between the two points from above? Round to the nearest tenth.

$d = \sqrt{(x_2-x_1)^2 + (y_2-y_1)^2} = \sqrt{(6-1)^2 + (4-7)^2} = \sqrt{5^2 + (-3)^2} = \sqrt{25+9} = \sqrt{34} \approx 5.83$

Write the equation of the line passing thru **(-6, 1)** with a **slope of -3**.

x_1, y_1 $\quad m = -3$

$y - 1 = -3(x + 6)$

$y - 1 = -3x - 18$

$+1 \quad +1$

$y = -3x - 17$

Write the equation of the line passing thru the points **(-4, -3)** and **(8, -3)**.

① $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-3 + -3}{8 - -4} = \frac{0}{12}$ $\quad m = 0$

$x_1 y_1$ $\quad x_2 y_2$

② $y - y_1 = m(x - x_1)$

$y - -3 = 0(x - -4) \Rightarrow y + 3 = 0$

$-3 \quad -3$

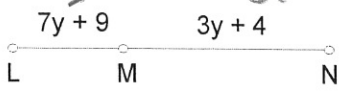
$y = -3$

Part 5: OPEN-ENDED. Answer each of the questions and place your answer in the space provided.

a) Solve for y.
b) Find LM
c) Find MN

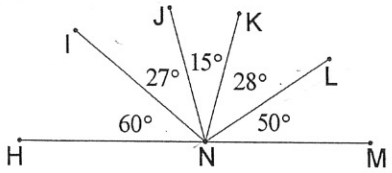
LN = 183 units

$7(17)+9 = 128$ $\quad 3(17)+4 = 55$



$7y+9+3y+4=183$
$10y+13=183$
$10y=170$
$y=17$

y = 17 LM = 128 MN = 55



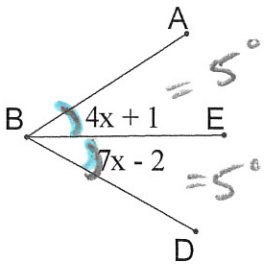
$m\angle HNL =$ 130°

$m\angle INL =$ 70

$m\angle HNJ =$ 87

50. $\overrightarrow{BE}$ bisects $\angle ABD$.
Find x and $m\angle ABD$.

$4x+1=7x-2$
$3=3x$
$1=x$



x = 1 $\quad m\angle ABD =$ 10°

. Graph the following equation on the coordinate plane.

$y = \frac{1}{3}x - 6$